11-1-1990

Computing at Lehigh

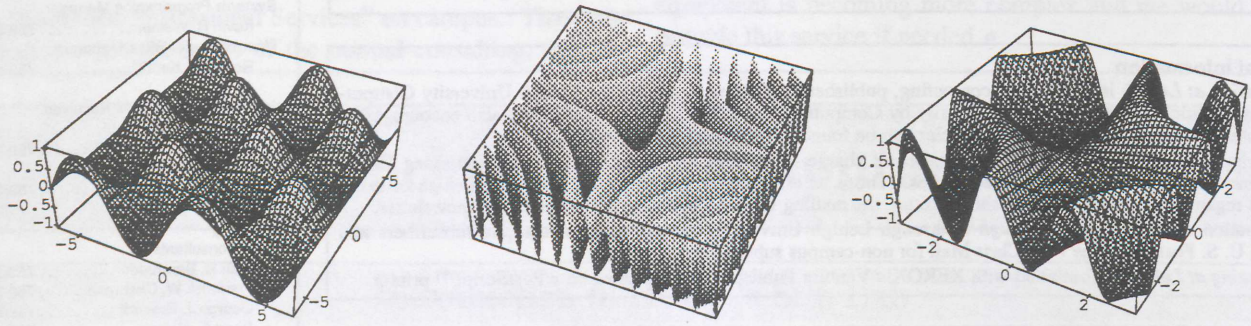
Lehigh University

LEHIGH 125 YEARS

LUCC Computing at Lehigh

Newsletter of the
Lehigh University Computing Center

Volume XIX, Number 2



Mathematica Graphics

Contents

From the Director

William R. Harris (WRH0@LEHIGH)

I would like to announce that Computing and Communication Services has signed a four-year agreement with Oracle. The agreement purchased credits for the Oracle data base management system (DBMS) products at a discount for the next four years. This is not a site license. The credits have been purchased by the University, and Computing and Communication Services is paying the University back over the four year period (i.e., the purchase has been amortized). The intention is to make Oracle available to the campus at a significant discount and recover the cost of the product from those using Oracle products. Arrangements to use Oracle may be possible, without the license fee, in projects of major benefit to the university. Also, for start-up activities, the license fee could be waived for a reasonable period of time.

There are two costs associated with using Oracle, as with most software. The first is the cost of the license to use the product. This is a one-time charge and this is what is being discounted. The second charge is a yearly maintenance fee, which is 15% of the list price of the initial license fee for the

See Director, page 3

Lehigh University Computing Center Hardware

CDC CYBER 180 Model 850 (32 MBytes Memory, NOS/VE V1.5.2)
IBM 4381 Model 11 (16 MBytes Memory, VSE/SP V2.1.5)—Administrative
IBM 4381 Model 14 (24 MBytes Memory, VM/SP HPO V1.5.0, MUSIC/SP V2.2)—Network Server
VAX 8530 (32 MBytes Memory, VMS V5.3)

Computing at Lehigh est. 1986

Lehigh University Computing Center Newsletter

Editor ..... Blair R. Bernhardt

194 E.W. Fairchild-Martindale Library and Computing Center #8b
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General Information

Computing at Lehigh is a report on computing, published four times a year by the Lehigh University Computing Center. Article contributions are primarily by Computing Center staff, although users are also encouraged to contribute. Instructions for submitting articles can be found at the end of this newsletter.

Subscriptions to *Computing at Lehigh* are free of charge to those in the Lehigh University Computing Center user community and to other interested parties. Those who wish to subscribe to *Computing at Lehigh* or make changes regarding their subscription should return the mailing list form included at the end of this newsletter.

Distribution of *Computing at Lehigh* is through Lehigh University campus mail for campus subscribers and through U. S. Postal Service First Class Mail for non-campus subscribers.

Computing at Lehigh is formatted with XEROX's Ventura Publisher™ and printed on a PostScript™ printer.

Public Site Hours (Academic Schedule)

	Room Hours	Student Consulting Hours
Central Site Users' Area, 180 Fairchild-Martindale		
Sun	12:00 noon – 12:00 midn	12:00 noon – 12:00 midn
Mon–Thu	6:30 am – 12:00 midn	8:00 am – 12:00 midn
Fri	6:30 am – 10:00 pm	8:00 am – 5:00 pm
Sat	9:00 am – 8:00 pm	10:00 am – 8:00 pm
Central Site Microlab, 292 Fairchild-Martindale		
Sun	12:00 noon – 12:00 midn	no consulting
Mon–Thu	6:30 am – 12:00 midn	no consulting
Fri	6:30 am – 10:00 pm	no consulting
Sat	9:00 am – 8:00 pm	no consulting
Fritz Lab Annex, Room A3		
Mon–Fri	8:00 am – 10:00 pm	no consulting
Grace, Room 28		
Sun	24 hours	2:00 pm – 12:00 midn
Mon–Thu	24 hours	1:00 pm – 12:00 midn
Fri–Sat	24 hours	1:00 pm – 5:00 pm
Libraries: Fairchild-Martindale, Linderman, & Media Center		
Sun	12:00 noon – 12:00 midn	no consulting
Mon–Sat	8:00 am – 12:00 midn	no consulting
Maginnes, Room 491		
Mon–Fri	8:00 am – 10:00 pm	no consulting
Sat	9:00 am – 1:00 pm	no consulting
Mountaintop Campus, B103 Building A		
Mon–Thu	6:30 am – 10:30 pm	no consulting
Fri	6:30 am – 5:30 pm	no consulting
Mountaintop Campus, D109, D117 Building A		
Mon–Thu	6:30 am – 10:30 pm	no consulting
Fri	6:30 am – 5:30 pm	no consulting
Packard, Room 118		
Mon–Fri	8:00 am – 10:00 pm	no consulting
Sat	8:00 am – 2:00 pm	no consulting
Packard, Room 502		
Mon–Thu	8:00 am – 10:00 pm	10:00 am – 10:00 pm
Fri	8:00 am – 10:00 pm	10:00 am – 5:00 pm
Sat	8:00 am – 2:00 pm	no consulting
Rauch, Rooms 50, 60		
Mon–Fri	8:00 am – 10:00 pm	no consulting
Whitaker, Room 257		
Mon–Thu	8:00 am – 8:00 pm	no consulting
Fri	8:00 am – 5:00 pm	no consulting

Business Hours

Business Office, 394 Fairchild-Martindale	
Mon–Fri	8:15 am – 12:00 noon
	1:00 pm – 4:45 pm
User Services, 185/194/196 Fairchild-Martindale	
Mon–Fri	8:00 am – 12:00 noon
	1:00 pm – 5:00 pm
Microcomputer Store, 524 Brodhead Ave.	
Mon–Fri	9:00 am – 5:00 pm
Operations, 171 Fairchild-Martindale	
Mon–Fri	8:00 am – 11:30 am
	1:00 pm – 4:30 pm
Operator Support/Machine Room, 179 Fairchild-Martindale	
Sun	2:00 pm – 10:00 pm
Mon–Thu	8:00 am – 12:00 midn
Fri	8:00 am – 10:00 pm
Sat	9:00 am – 5:00 pm

Special Forms Processing Hours

Liquid Ink Plots	
Tue,Fri	8:00 am – until done

Computing Center Directory

Information About Policies and Plans
- Director
  - William R. Harris .... (215) 758-3830
- Associate Director of Computing Consulting Services
  - Timothy J. Foley 758-3830
- Associate Director of Computing Facilities
  - Carol D. Lidie 758-3989
- Systems Programming Manager
  - Kevin R. Weiner 758-3991
- Microcomputer Store Manager
  - Robert R. Kendi 758-4606

Information About Bills Received
- Administrative Associate
  - Pamela S. Steigerwalt 758-3825
- Accounting Assistant
  - Annette L. Ruhe 758-3825

Consulting
- User Consultants
  - Blair R. Bernhardt 758-3994
  - Frederick W. Chapman 758-3218
  - George J. Grevera 758-5152
  - Dean E. Nelson 758-4988
  - Richard A. Silvius 758-3985
  - Binod K. Taterway 758-3984

Information About Software Availability
- Software Librarian - Mainframe
  - Judith K. Allio 758-3993
- Software Librarian - Microcomputer
  - Doris A. Oravec 758-4592

Systems Status, Technical Information
- On-duty Consultant
  - 758-4141

General User Information
- Administrative Clerk
  - Lori F. Hertzog 758-3990
- Accounts Coordinator
  - Ann Marie Matusa 758-3992

Information About Tapes and Supplies
- Operations Assistant
  - Julie Cannici 758-4140

Consulting Policy

Consultants are provided to assist users in the use of Lehigh University's computer resources. Consultants are not authorized to interpret course assignments, write code, or debug program logic.

When in need of a consultation, users are requested to contact the LUCC student consultants (present at several of the public sites and at ext. 84141), who are hired to augment the full-time staff consultants.

Computer	On-Campus Phone (300-19.2K Baud)	Off-Campus Phone (1200/2400 Baud)	Network Node Name	Network
Network Server	(NS) Ext. 46000	974-6000	LEHIGH	BITNET
			NS.CC.Lehigh.EDU	Internet
CYBER 850	(CDC) Ext. 46800	974-6800	CDC1.CC.Lehigh.EDU	Internet
VAX 8530	(VAX) Ext. 46400	974-6400	VAX1.CC.Lehigh.EDU	Internet

Director, from front cover

largest system on campus and 7½% of the initial license fee for subsequent licenses.

In addition to our agreement, there is a standard educational Oracle program for products used only for academic and educational use. Non-commercial use is permitted provided that the results of the research remain in the public domain. In this case the initial license fee is waived and there is a yearly fee of 15% of the initial license cost.

If you have questions regarding this agreement or you are interested in acquiring Oracle for your use feel free to contact me.

On another topic, the Computing Center has begun to provide "Extended Professional Services" on campus. These are services outside the scope of the normal consulting, training and assistance traditionally provided by the Center. They are being provided on a cost recovery basis and are offered to those who may need assistance with a special project, short-term or on-going, where it would have otherwise been necessary to hire someone to do the work. An example might be a researcher who has a number of workstations that need software enhancements or there is the need to install the latest version of the operating system. Another example, may be the need to develop new software to interface laboratory test or data collection equipment to a computer. As more and more personal computers and workstations are acquired we expect the need for this kind of service to grow. The maintenance of operating systems on workstations and the networking of microcomputers, workstations and other equipment is becoming more complex and we would like to provide this service if needed.♦

Workstation Computing

Introduction to LUCC's Sun Lab

Binod K. Taterway (LUBKT@VAX1.CC.Lehigh.EDU)

LUCC's Sun Lab in Packard Lab room 118 is now officially open. The Lab consists of seven networked Sun workstations named PL118a through PL118g. The Lab hours are: 8:00 am – 10 pm, Monday to Friday, and 8:00 am – 2:00 pm on Saturday. The Lab is closed on Sunday. Logins are permitted on all machines except PL118a which is the server for the remaining machines. To establish a login session, select any one of the client machines (PL118b through PL118g). All client machines are configured identically. The selection of a client depends solely upon the user, and upon considerations such as the activity of the cpu, the number of users logged in, etc. Each client is configured as a dataless machine; it does not contain any files or directories created by users. User files are created on the server and they are automatically available upon login. So, irrespective of the client machine to which one connects, the same disk files and directories will be available.

Opening an Account

Presently, in order to obtain a Sun account, one first needs to have a Network Server account. (For assistance in getting an account on the Network Server call the consulting hotline at ext. 84141.) To open a Sun account, login to the Network Server (IBM 4381) and access the INFO topic SUN. Follow the instructions on the screens that are displayed. Your Sun account will have the same username as your Network Server ID. When taking note of your password, pay special attention to the case of letters in your password. Under SunOS (Sun's version of the UNIX™ operating system), lowercase and uppercase letters are considered different, hence the password must be entered exactly as it appeared on the Network Server (in appropriate case) when logging in to the Sun account. Although there are six client machines (PL118b through PL118g) in the Sun Lab, only one account is needed to login to any of them.

Establishing a connection

The Sun workstations in Packard Lab room 118 are connected via TCP/IP (Transmission Control Protocol/Internet Protocol) to the backbone network. TCP/IP permits remote logins via the **telnet** command from any machine that is connected to the campus backbone network (or the Internet). This connectivity obviates the need to physically be in the lab in order to use the Sun workstations. Note that there are some applications, such as **sunview** (Sun Window), **openwin** (OpenWindow) and **startx** (X Window), that run only when you are logged in at the console terminal (i.e., the workstation), and not via **telnet**. In those cases, you will need to be present in the Lab.

The **telnet** command accepts a hostname as its parameter. The host names of the networked Sun workstations to which logins are allowed are PL118b.CC.Lehigh.EDU through PL118g.CC.Lehigh.EDU; their numeric Internet addresses of 128.180.18.2 through 128.180.18.7 can also be used.

For example, to establish a login session to the host PL118b, enter the **telnet** command from the host (i.e., the machine which you are currently using) machine's operating system prompt in either of the following manners, assuming that the host is connected to the campus backbone network

continued on next page

continued from previous page
(or the Internet):

```
telnet PL118b.CC.Lehigh.EDU
```

```
telnet 128.180.18.2
```

LUCC's VAX and CYBER mainframes, the ANNEX1 terminal server, microcomputers on the LAN in the Users' Area and the LAN in rooms 50 & 60 of the Rauch Business Center, and most departmental workstations are connected to the campus backbone network. To find out whether your departmental machines are connected to the backbone network, contact your site administrator.

Please note that the Sun workstations in Packard Lab room 118 are not connected to the campus InteCom phone system; therefore, NetDial (or any other terminal emulation package that uses a serial connection) cannot be used to establish a login session directly to the Sun workstations. However, NetDial can be used to connect to the Annex1 terminal server by selecting option 6 (Dial user-specified phone number) from the NetDial main menu, and entering the phone number of the terminal server on the screen that follows. The on-campus phone number for Annex1 is 44413; the off-campus number is 974-4413. Once connected, enter the necessary **telnet** command at the "annex1:" prompt (the terminal server's prompt) to connect to any of the client machines in Packard Lab room 118. Note that the terminal server itself does not have accounts. Also, the ability to connect to Annex1 depends on the availability of a dial-in port. If all dial-in ports are in use, you will have to wait until one of them becomes available before you can connect to the terminal server, and then, eventually to the Sun workstations in Packard Lab.

As noted before, the microcomputers in the public LAN sites at the Users' Area and at rooms 50 & 60 of the Rauch Business Center are connected to the campus backbone network. In order to establish a login session from a microcomputer located in any of these sites to the Sun workstations located in Packard Lab room 118, first establish a connection to the LAN. Then, either use the **telnet** command as documented above or, for a menu driven application, enter **ACCESS** at the DOS prompt. Select option **6** (Access user-specifed host [IP address]) from the Access main menu. Then, at the IP address prompt, enter the hostname of the client machine to which you wish to connect.

Disk Limits

Each Sun account has a limited amount of disk space. Undergraduate accounts have a limit of 1 Mbyte; all other kinds of accounts have a limit of 5 Mbytes. To see the quota assigned to your account, enter the command

```
quota -v
```

at the operating system (shell) prompt.

The disk quota is only enforced on the user's login directory. Files created on the scratch directory (/scratch) are not counted toward the disk quota. All client machines have a scratch space (/scratch) that can be used to create temporary files. By default, files created by one user on the scratch space are not accessible by other users. While files may be temporarily stored in the scratch directory, it is recommended that you use the available space efficiently and delete unneeded files. Please be warned that the contents of this directory *will be deleted* periodically to keep the disk space relatively clean. Make sure that you do not store anything valuable in this directory. Files stored in this directory are not backed up; if a file is lost from this directory, it will not be recoverable. For storing permanent files, create files on your home directory – the directory you are in when you login to your account.

Note that the contents of */scratch* is local to the particular workstation to which you logged in. A file created on the */scratch* directory of PL118c, for example, will not be available when you log into any workstation other than PL118c.

On-line Help

On-line help is available via the **man** (man[ual]) command. **man** accepts a command as its parameter. Hence, to display help on "ls" (list files), enter:

```
man ls
```

Manual pages are displayed one page at a time on the screen. If the manual information is more than a screenful, the bottom of the screen would display

```
--More--(xx%)
```

where "xx" is the percentage already displayed. Pressing the space key displays the next screen until all the pages are displayed. **man** requires that the command name be known, but if it isn't, the **man** command can be entered with the "-k" option (for keyword search). For example:

```
man -k print
```

searches for all the commands that have the expression (or string) "print" in the command name or in a line describing the command. LUCC written manual pages can be listed by using the **help** command or, if the topic is known, by entering **man** followed by the topic name.

SunOS manuals (in hardcopy) are available for reference in Packard Lab room 118 and at the Mainframe Library in the Central Site.

Local News

Periodic announcements are made via the **news** command. By default **news** attempts to read only the new (unread) news articles. To re-read old articles, enter:

```
news -a
```

To display the list of available news topics, enter:

```
news -n
```

and, to count the total number of news articles, enter:

```
news -s
```

Enter:

```
man news
```

for a description of the local news facility.♦

Micro Computing

LUCC Microcomputer Software Happenings

Doris A. Oravec (DAO1@LEHIGH)

The microcomputer software the Computing Center has available for its users is constantly changing. Listed below are completed and planned changes to the software installed on the public site LAN's, as well as new acquisitions.

LAN Software

- Quattro Pro (spreadsheet w/graphics) and Turbo Debugger & Tools (assembler/debugger/profiler) were installed on all public site LAN's.
- Mathematica (mathematical computation system), PC-GIVE (econometric modelling system), Turbo C++ (object-oriented programming environment), and Turbo Lightning (electronic proofreader/thesaurus) were installed on the Central Site Users' Area and Rauch Business Center LAN's.
- LIMDEP and Soritec Sampler (econometric analysis programs) were installed on the Rauch Business Center LAN's.
- PC-GIVE, Turbo C++, Turbo Lightning, and Soritec Sampler are scheduled for installation on all public site LAN's in January '91.
- Version 5.0 of WordPerfect, InteCalc, and VP-Planner are currently scheduled for removal from all public site LAN's in January '91. (Version 5.1 of WordPerfect will still be available.)
- Upgrades to look forward to are: WATFOR-77 to version 3.1; dBase III Plus to dBase IV; EXP to version 2.0; and WordStar to version 6.0.

Note: A complete list of all LUCC-supplied microcomputer software is available on the Network Server under the INFO topic **MICRO**.

New Acquisitions

Added to the Computing Center's list of site licensed software (software which is authorized for copying under certain circumstances) is Pascal Recipes (Pascal procedures) from Numerical Recipes Software. Under the terms of this license, Lehigh faculty, staff, and students are permitted to make copies of this software for use both on-campus and off-campus, and on both university-owned and personally-owned machines. Members of the Lehigh community are also permitted to retain and use their copies of this software after leaving the University.

In addition, a site license for PC-GIVE, an interactive econometric modelling system, has been acquired from the Oxford Institute of Economics and Statistics. Under the terms of this license, Lehigh faculty, staff, and students are permitted to make copies of this software for use on Lehigh-owned computing systems.

Diskettes containing Pascal Recipes and PC-GIVE are available for copying at the circulation desks located in the Computing Center Central Site and Fairchild-Martindale Library. Pascal Recipes is also available for downloading from the Network Server under INFO topic **NRECIPES**.

Note: A list of site-licensed software is available on the Network Server under the INFO topic **SITELIC**.

Software obtained for use on the Macintosh systems in the Central Site Users' Area includes the foreign language software Introduction to Russian, Russian Noun Tutor, Russian Verbal Aspect, and LEKTOREK Drills I, and the geological software Terra Mobilis (plate tectonic program).

Finally, a copy of StatXact is available for user evaluation from LUCC's Microcomputer Software Library. StatXact is a statistical package which computes exact p-values for two-sample tests, RxC contingency tables, and stratified 2x2 contingency tables. The value of such a package is most obvious in the analysis of sparse or small sample data sets. No other package has been available to provide anything other than asymptotic p-values (including SAS, SPSSX, and SYSTAT). The asymptotics are not accurate when the data are sparse or for small samples. A user should contact the software librarian in Room 185 Fairchild-Martindale Building if interested in borrowing this program.

To keep users up-to-date on the latest software acquisitions, the INFO topic **NEWSOFT** is maintained on the Network Server. New and upgraded software for microcomputers, workstations, and mainframes is listed there.♦

Borland Product Updates

Borland International Inc. has upgraded two products, Paradox and Quattro Pro, which are available to all Lehigh faculty and staff through the Educational Site License Agreement .

Paradox has been upgraded to version 3.5. Paradox V3.0, Paradox Network Pack V2.0, Paradox 386, and Paradox OS/2 have been incorporated into this version. Features of version 3.5 include:

- Query-by-example which allows easy access to information without the need for procedural programming.
- Multi-table forms which allows the design of a single form that displays information from up to nine detail tables.
- *VROOMM* (Virtual Runtime Object-Oriented Memory Manager) which more efficiently uses available memory to run large applications.
- Graphic capabilities that allow up to 25 report or graph formats for any table.
- SQL-ready technology.

Quattro Pro has been upgraded to version 2.0 and includes:

- *ProShow*, a new publishing and presentation tool which includes new 3D graphs and multi-layered slide capabilities.
- *Solve For* which provides shortcuts to solving complex "what if" problems and has support for 132 column display.
- A Paradox access feature which allows an answer table to be pasted into a spreadsheet or workspace, worked with in Quattro Pro 2.0, and returned to Paradox in one keystroke.

System requirements for both products on IBM-compatible microcomputers include a hard disk drive, 512K RAM and DOS 2.0 or higher.

These updated products are available for downloading from the Network Server under INFO topic **BORLAND** or by contacting Sandy Edmiston at ext. 84753 or the department Borland contact persons listed in the September 1990 issue of *Computing at Lehigh.*♦

Network Operation

Network Server Software Revised

The software currently running on the Network Server will be revised this Spring. At the beginning of the Spring semester, the current Network Server software will be replaced with an improved version.

You may begin using this new version now on an *experimental* basis. To do so, type **/NEWLUNA** at the LUNA main menu. Then, the next time you log in you will automatically be using the new Network Server software. Please note that although this new version has been tested, some functions are still being added and there are still some problems. Note that once you begin using this new system, you *will not be able* to go back to the old system. Therefore, do not try this unless you are willing to experience and report possible problems.

Some of the many improvements include the following:

- The LUNA main menu has been integrated with the INFO menu system. The new system allows you to easily and efficiently move from menu to menu and from menu to application.
- BITNET and Internet mail addresses can be used along with regular Network Server ID's and nicknames.
- The new mail system can be used to organize messages by placing them into groups called folders.
- A personalized signature file can be created. Whenever mail is sent, this personalized file will be added to the end of the mail message.
- Function keys have become more standardized.
- Additional on-line help has been added.

LUCC believes that this new system is much easier to use and will increase everyone's efficiency when using the Network Server. Additional information on the new system can be found in Technical Bulletin 21A which can be obtained from User Services or referenced online under INFO topic **TECHBULL.**♦

General Interest

An Introduction to Login Scripts

Daniel A. Schwartz (DAS1@LEHIGH)

Most computer operating systems allow a file to be included in the user's account which contains commands to customize the user's environment when he or she logs in. This article provides some examples of these files, called "login scripts", for NOS/VE, VMS, UNIX, and MS-DOS.

Frequently, login scripts contain commands which set up aliases (or synonyms for commands), a command and/or library "path" (specifying the location of directories or libraries containing programs and/or object code), a check for mail, and a command to set the terminal type so full screen applications (e.g., editors) will function properly. Each login script must be written in the command language of the operating system in which it is to operate. For NOS/VE, the operating system on the CYBER 850, the command language is called SCL or *System Command Language*. For VMS, the operating system on the VAX 8530, the command language is called DCL or *Digital Command Language*. The term used to describe login scripts also varies by operating system. On the CYBER, a login script is referred to as a user prolog. Under UNIX it referred to as a "shell script", and under MS-DOS it is simply referred to as a "batch" file. The following examples of login scripts provide ideas as to how a user can customize his or her environment.

NOS/VE (CYBER 850)

When logging in to the CYBER, the operating system first runs through a system prolog which informs the user about bulletins and sets up some basic paths which are necessary for use of the system. Then, it exits the system prolog and runs **$USER.PROLOG** which is the user prolog. The following is an example of a user prolog which illustrates several of the functions described above. **Note:** Lines beginning with a double quote (") are comment lines.

$USER.PROLOG

```
"add $user.proclib to the command_list
"(path).  proclib would be the name of a
"library which you created.
    create_command_list_entry $user.proclib
"if the current job is interactive (not a
"batch job), then ....
    IF $job(mode) = 'INTERACTIVE' then
"check for new mail
       mail_signon " check for incoming mail
"This command tries to figure
"out what type of terminal you are using.
       identify_terminal
"display money left in this account
       balance
    IFEND
```

VMS (VAX 8530)

When logging in to the VAX, the system login program checks for new mail and announces any new system bulletins. Then it checks the default directory for a **LOGIN.COM** file. The following is an example of a LOGIN.COM file. In a VMS command file, all command lines must begin with a dollar sign ($); comments follow an exclamation mark (!).

LOGIN.COM

```
$! add MS-DOS like commands to command list
$ use dos
$! if this is a batch job then exit
$ if f$mode().nes. "INTERACTIVE" then goto end
$! determine terminal type and set it.
$!   (no tabs means that when a program needs
$!    to tab, it will use spaces instead.)
$ set term /inquire/notab
$! create some aliases
$!   (characters after an * are optional)
$ w*hoson   :==    show users /full
$ ls        :==    dir /size /date /prot
$ q         :==    show queue /all
$ type      :==    type/page
$! display free disk space.
$ show quota
$! display money left in account.
$ balance
$! end with a blank line....
$ write sys$output ""
$ end:
$ exit
```

SunOS (SUN Lab: UNIX - csh)

When logging in to a UNIX machine, assuming the account is set up to run the C shell (csh), the system will take commands from the **.cshrc** file and then the **.login** file. Both of these should be located in the home directory (*~/*). Every time a new C shell is run, the commands in the **.cshrc** file will be "executed". Below are examples of both a **.login** and **.cshrc** file. Comments begin with a # sign. Note that case is always an issue on UNIX systems.

continued on next page

continued from previous page

.login

```
# set terminal attributes.
stty rows 24
stty columns 80
# notify when new mail received
biff y
# set the search path for commands.
# When a command is entered, search
# these directories for the command.
# Tilde (~) is the home directory.
# Backslash (\) is a line continuation.
set path = ($path ~ ~/bin /usr/local \
/usr/ucb /usr/bin /usr/etc /usr/local/bin)
# Check disk quota - how much space free
quota -v
# check who else is logged in.  If someone
# else is running programs it will
# impact on the performance of my session.
finger
```

.cshrc

```
# set the mask for default permission bits
# for new files.  077 means that the user
# has all permissons; group and other have
# none.
umask 077
# skip remaining setup if not an
# interactive shell
if ($?USER == 0 || $?prompt == 0) exit
# let the shell print out messages
# while commands are running
set notify
# "set history=n" tells the shell to
# remember "n" commands (for command
# recall)
set history=23
set savehist=23
# tell the shell to complete filename
# when Escape key is pressed.
set filec
# display the date and current path
date
pwd
# set up aliases for common commands.
alias h                history
alias ^L               clear
alias cls              clear
alias type             more
alias dir              ls -lCF
alias j                jobs -l
# this "bak" alias removes
# several junk files
alias bak              'rm core #* *~ .*~'
alias md               mkdir
alias rd               rmdir
# the -i switch on these commands
# will prompt if it is all right
# to overwrite a file
alias cp               'cp -i'
alias copy             'cp -i'
alias mv               'mv -i'
```

MS-DOS (Microcomputers)

In the microcomputer environment you usually don't need to "login" to an account; you simply turn the machine on and it automatically loads the operating system and then executes any commands found in the **AUTOEXEC.BAT** file. Below is an example AUTOEXEC.BAT file. Comments are preceded by the command **REM**.

AUTOEXEC.BAT

```
REM turn off echoing of commands
REM to the screen...
echo off

REM set prompt to display the path
REM followed by a greater-than (>).
prompt $P$G

REM set path for executable commands
REM to look first in "c:\bin"; then
REM in "c:\dos"; and finally "c:\wp51"
path=c:\bin;c:\dos;c:\wp51

REM load the "ced" program for command
REM recall.  Load synomns from "ced.cfg".
c:\util\ced.com -f c:\util\ced.cfg

REM toggle the "numlock" key off
c:\bin\toggle N

REM load mouse driver so mouse can be used
c:\bin\mouse
```

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Consultants Corner

Finding Electronic Mail Addresses

Daniel A. Schwartz (DAS1@LEHIGH)

A common problem which users have is trying to send electronic mail to someone when they have lost or forgotten the person's address. Frequently, the only way to find out someone's address is to ask the person.

However, some groups are working to create a "white pages" directory of all computer users who are connected to a network. At this time, there is no such program. Certain groups have created local versions of what they think a "white pages" directory should look and work like. So, if most of an address of a person you are trying to reach is known, there may be various tools which can be used to get the person's full address.

For instance, if the person is at the University of Pennsylvania, from the VAX 8530 (i.e., VAX1) the command:

```
TELNET WHOIS.UPENN.EDU
```

connects to UPENN's on-line white pages. Once connected, the person's last name can be entered and the white pages will return the person's address. Of course, this only works with people at UPENN.

From VAX1, the **NSLOOKUP** program can be used to check a hostname to see if it is valid. The HOSTS.NIC file (in the VAX1 directory [ANONYMOUS]) can be searched for a hostname, if part of the address is known. HOSTS.NIC is a large collection of some of the more popular host names. Sometimes, the **FINGER** command can be used to check a user id once the name of the host is known. Frequently finger will return extra information about the user such as the date of the last login, if new mail is waiting, and the username.

For example, from the VAX:

```
FINGER schwartz@pl118b.cc.lehigh.edu
```

returns the following:

```
[pl118b.cc.lehigh.edu]
Login name: das1                              In real
life: Daniel A. Schwartz
Directory: /home/PL118a/das1          Shell: /bin/csh
Last login Fri Nov  9 12:54 on console
Mail last read Thu Nov  8 16:52:31 1990
No Plan.
```

Note that the policy regarding public availability of user id's varies with each institution. At Lehigh, the policy is that user id's are usually not publicly available. Therefore, if an external user wishes to contact someone at Lehigh electronically, and the external user does not know the electronic address of the person at Lehigh, the external user must first contact the person at Lehigh via some other means and ask that person for his or her electronic mail address.♦

Q and A

BITNET and the Internet

Question: Using the new LUNA software on the Network Server to send electronic mail, I noticed that my address changed from the form xxxx@LEHIGH to xxxx@NS.CC.Lehigh.EDU. Why did this happen and will I still receive mail sent to my old address?

Answer: The IBM 4381 "Network Server" is both a BITNET node, with addresses similar to XYZ0@LEHIGH, and an Internet node, with addresses similar to XYZ0@NS.CC.Lehigh.EDU. Therefore, electronic mail can be sent to users of the Network Server using either form of the address. Because of gateways (such as the Network Server) between BITNET and the Internet, users of the Network Server (as well as users of other machines on either BITNET or the Internet) can send mail to other users on both BITNET and the Internet.

The new LUNA software uses an Internet address instead of a BITNET address to interface more cleanly with the rest of the world. The Internet is much larger than BITNET. While there are over 3,000 nodes (i.e., individual computers) connected to BITNET, there are over 2,000 interconnected *networks* which comprise the Internet. Many of these interconnected networks are regional in scope. For instance, Lehigh is connected to PREPnet, which currently connects 36 sites across the entire state of Pennsylvania. Each of these sites can have more than a single node (Lehigh has over 80). So, it is possible for a single regional network such as PREPnet to have as many, or more, nodes as BITNET in its entirety.

Printing Quattro Graphics

Question: When printing a Quattro graph from one of the LUCC LAN's, pieces of the graph are printed on multiple sheets of paper. How can this be fixed?

Answer: The problem which you describe actually pertains to the manner in which the LAN print queue operates. On the LAN, whenever information is being sent to the printer, it is actually being placed into a buffer. When all of the information has been placed into the buffer, the buffer is placed into the print queue and printed. To determine when all of the information has been placed into the buffer, the LAN uses a timer. Whenever no information has been placed into the buffer for a period of five seconds, the LAN assumes that the information is complete and sends the buffer to be

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printed. A new page is automatically generated after each buffer has been printed.

When Quattro is sending a graph to be printed, it generates the graphing information as it sends the information to be printed. Whenever the computer is generating the graphing information, it pauses momentarily from printing until that particular piece has been generated. Then, it sends that piece and then generates the next one. Whenever one of these pauses is five seconds or more, the LAN assumes that the information is complete and sends the buffer to be printed. If this happens three or four times (which is a frequent occurrence on some of the older, slower microcomputers), then pieces of your graph will be printed on three or four different pages, instead of just one.

To resolve this problem, invoke Quattro by entering QBIG instead of QUATTRO (or Q123BIG instead of Q123, if in Lotus look-a-like mode). QBIG and Q123BIG actually turn off the buffer timer, so pauses (no matter how long) will *not* close the buffer and send it to the queue to be printed. In this case, it is necessary to exit from Quattro in order for the buffer to be closed and sent to the printer.

Quattro Pro on LUCC LAN's defaults to *not* printing until the user has exited from the package.

Missing Quattro Pro Graphics

Question: I had a Lotus 1-2-3 file which I loaded into Quattro Pro. I used the ANNOTATE option in order to customize a graph associated with the file, and then saved the file. Later, I retreived the file and found that all of the customization was missing. What happened?

Answer: You probably saved the file as a Lotus file with a file extension of either ".WKS" (for Lotus version 1), or ".WK1" (for Lotus version 2.x). When saving a file with either of those extensions, or with the ".WKQ" extension of the original Quattro, Quattro Pro removes everything from the file which is not compatible with that particular file format. Since none of those three file formats are compatible with the advanced graphics features of Quattro Pro, those features would be stripped out of the file, and the graph would be left in a form compatible with the format in which it was saved. In order to maintain the advanced graphics features of Quattro Pro, the file must be saved with an extension of ".WQ1" which is the file format which can only be loaded into Quattro Pro.♦

CCAC Highlights

The Computing Center Advisory Committee (CCAC) charter requires that CCAC meeting "highlights" be reported here, and that the full minutes be available on the Network Server. The minutes on the Network Server may be accessed under INFO topic **CCACMIN**.

Computing Center Advisory Committee Minutes: September 28, 1990

Members Present: W. Brichta, T. Foley, B. Fritchman, R. Gruver, B. Hargreaves, W. Harris, E. Kay, R. Kendi, C. Lidie, L. Taylor, K. Weiner.

Under LUCC News, it was reported that Tim Foley is taking responsibility for the management of User Services and that Blair Bernhardt was promoted to Lead User Consultant. Also, another User Services Consultant position will be created. The Network Server upgrade (adding a second processor) resulted in about a 20% increase in usable processing power. LUCC is working on ways of using more of the second processor. Also, a new mail system and LUNA facility are now available for user testing on the Network Server. The VAX 8530 disk drives were upgraded with 2 gigabytes of disk space added instead of the 1 gigabyte originally planned.

It was also reported that the Drown Hall public site was closed and the new Rauch Business Center sites have been opened. Also, the microcomputers at the Central Site have been upgraded, and the NCUBE machine has been installed in the new Packard Lab Workstation Lab and is currently working standalone. It was reported that the Microcomputer Store ended the fiscal year with a small surplus and that it has started selling Gateway machines. Also, Computing and Communications has signed a discount agreement for the ORACLE database software.

The Financial Report was distributed. The VAX and CYBER processors are running at close to 100% with Mechanical Engineering and Civil Engineering being the heaviest users. It was stated that the response time on the CYBER has deteriorated over the last few months. In the discussion of the replacement of the machine which followed, it was requested that a suitable overlap period be provided. It was noted that an overlap was planned, but it may not be as long as some would like, due to the cost of running two machines.

Recent developments in providing extended professional services to research labs were explained. This has begun with LUCC providing the Fluids Lab with system support and with the approval to hire a person to provide hardware and software interfacing assistance to the Fluids Lab and other Labs that have a need for this kind of work.

Ed Kay indicated that there was a problem with the President of the Computer Society attending CCAC meetings on Friday afternoons. The Vice President will probably attend. There has been no word from the Graduate Student Council regarding their representative. Tim Turko will represent the College of Education in place of Gary Lutz. Fred Chapman of LUCC will chair the CINC, in Gary's place. Carl Moses will represent the Arts and Sciences College in place of

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Charles Kraihanzel. Larry Taylor, from the College of Business and Economics, will take Jim Hall's place and Larry will serve on the PC Rollover Committee.

It was reported that the Software Subcommittee approved the continuation of both the Borland contract and the WiscWare software program for next year. The committee approved joining as a WiscWare Demonstration Center, where we would receive copies of all the software for demonstration purposes. It was reported that ten licences of Mathematica are available at both the Rauch Business Center and the Central Site. There is also a program to purchase Mathematica at approximately a fifty percent discount.

The activities of the PC Rollover Subcommittee were reported. The grants for new machines have been distributed to faculty. Also, displaced machines from the public sites are being distributed. Machines are going to Physics, Psychology, Aerospace, the Graduate Student Council, and one machine to the Dean of Students office. There was a discussion about the continuing role of the Subcommittee in the distribution of new machines. There was agreement that there would be a need for the Subcommittee to be involved in the decision process. LUCC can help in assisting with the administrative functions involved. It was emphasized that there is a need for more funding to rollover machines than the $25,000 made available by the Computing Center. Other issues to be addressed by the Subcommittee are the priority for the installation of projection systems in classrooms and the transition to UNIX on microcomputers.

It was noted that LUCC will be asking for volunteers to run a new version of LUNA and the Mail system. The new mail system is the one that is planned for the new Network Server.

Computing Center Advisory Committee Minutes: October 26, 1990

Members Present: W. Brichta, T. Foley, B. Fritchman, R. Gruver, B. Hargreaves, W. Harris, F. Harvey, E. Kay, R. Kendi, C. Lidie, L. Taylor, T. Turco, K. Weiner.

It was announced that the SUN workstation lab in Packard Lab, room 118, was open for use. There are five workstations and a file server. There will be another SUN added in the near future. Account sign-up is through the Network Server.

The Financial Report was distributed. The VAX and CYBER processors are running at close to 100%. There was a discussion of Sponsored Research income and the effect it might have on the LUCC budget. Rate structures and the over budget University Sponsored usage was also discussed.

It was reported that the Software Subcommittee has not met since the last meeting. A letter announcing the WiscWare program will be distributed soon. There have not been many requests for software recently. Some Borland "second tier" software products (e.g., Toolbox) have been dropped and will not be available in the future.♦

Computing at Lehigh Contribution Information

Computing at Lehigh encourages contributions for articles and *Consultant's Corner*.

Contributions can either be submitted electronically via the Network Server to user `BRBO`, or be provided on a MS-DOS formatted diskette. Contributions sent via the Network Server must be in ASCII format (i.e., be plain text). Acceptable document formats are:

- ASCII (not word-processed)
- EXP
- Freestyle
- WordStar
- WordPerfect

Printed copy is welcomed, but please also accompany the printed copy with the text in one of the above formats (especially for articles and other long contributions). All mailed contributions (whether on diskette or printed) should be sent to the following address:

Editor, *Computing at Lehigh*
194 Fairchild-Martindale #8b
Computing Center
Lehigh University
Bethlehem, PA 18015

Contributed articles are included in *Computing at Lehigh* at the discretion of the Computing Center. The Computing Center reserves the right to edit all contributions. Article submissions must be received by July 31st for the August issue; September 15th for the October issue; December 15th for the January issue; and, February 10th for the March issue. Be sure to include your name, mailing address, and phone number.

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